

REMARKS/ARGUMENTS

The Office Action mailed March 22, 2004, and the references cited therein have been carefully reviewed.

As a result of the Office Action, claims 1, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg in view of Yamana and in view of U.S. 5,130,531 to Ito, claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg in view of Yamana and Ito and further in view of Amano, and claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg in view of Yamana and Ito, and further in view of Fujimura. These references have been carefully reviewed but are not believed to show or suggest Applicant's invention as now claimed. Reconsideration and allowance of the pending claims and examination and allowance of the newly added claim is therefore respectfully requested in view of the following remarks.

By the above amendment, claim 1 has been canceled without prejudice and new claim 8 has been added to better define the claimed invention over the prior art combination. No new matter has been added. Also claims 2, 3, 5, and 6 have been amended to change their dependency from claim 1 to claim 8. Support for this amendment is found in the specification on, for example, page 4, lines 9 through 18.

New claim 8 now requires an IC chip and other electronic parts that are directly mounted on an electrode pattern formed on the upper surface of the substrate, and that the infrared rays emitting elements and the infrared rays receiving element are connected to the IC chip and the electronic parts for operation.

Since all the electronic circuit and parts necessary for operating the infrared rays emitting elements and the infrared rays receiving element are mounted on the substrate, there is no need for lead projections projected outwardly from the substrate. Consequently, the whole device can be easily manufactured by simple steps at a low cost.

Rosenberg teaches a plurality of leadframe tabs 124 and 126 extending from the body of the transceiver 120 for mounting. In particular, in order to read the signal received by the second molded lens 123, a plurality of leads connected to the light receiving element 121 must be provided. Ito teaches leads 14, 15, 16 for electrically connecting the light emitting element 2 and the light receiving element 3 to the outside circuits. Yamana teaches a light emitting device having LEDs which operated without circuits as shown in Figure 4.

Furthermore, in the device of the present invention, the sectional shape of the first lens and the position of each of the infrared rays emitting elements with respect to the sectional shape of the first lens are selected so that the infrared rays radiation range is expanded in the X-direction over the two opposing ends of the first lens. Therefore, the device illuminates a display having a longitudinally long range.

With respect to this composition, the Examiner states that Yamana discloses "a sectional shape of the first lens in the X-direction and position of each of the infrared rays emitting elements with respect to the sectional shape of the first lens being selected, so that infrared rays radiation range is expanded in the X-direction." (Col. 3, lines 34-36).


However, the device of Yamana teaches a resin 5 containing SiO₂ powder

which has scattering effect but does not teach or suggest the limitations relating to the position of elements and the sectional shape of the lens. Further, the light is not emitted in the X-X direction, but in random directions by the scattering effect. This is radically different from the claimed invention. In view of the above arguments, it is respectfully submitted that amended claim 8 is now patentable over the prior art combination.

Claims 2, 3, 5, and 6 are dependent from claim 8 and are therefore allowable for the same reasons as claim 8.

Each issue raised in the Office Action dated March 22, 2004, has been addressed and it is believed that claims 2, 3, 5, 6, and 8 are in condition for allowance. Wherefore, reconsideration and allowance of these claims is earnestly solicited.

Respectfully submitted,
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